

Table 6

HHI Calculations

Digital : Analog / 6 : 1

Cellular Operators Bandwidth Devoted to Analog : 10 MHz

Firms	Bandwidth	Effective Capacity*	Market Share	HHI Contribution
Cellular 1	35	160	17.4%	302
Cellular 2	35	160	17.4%	302
3	40	240	26.1%	681
4	40	240	26.1%	681
5	20	120	13.0%	170
Totals	170	920		2,136

* Effective Capacity is defined as bandwidth devoted to digital multiplied by the ratio of digital's advantage over analog plus bandwidth devoted to analog.

Source: FCC, Second Report and Order ; Charles River Associates.

Table 7

HHI Calculations

Digital : Analog / 6 : 1

Cellular Operators Bandwidth Devoted to Analog : 10 MHz

Firms	Initial Bandwidth	Effective Capacity*	Market Share	HHI Contribution	Acquired Bandwidth	Final Bandwidth	Effective Capacity*	Market Share	HHI Contribution
Cellular 1	35	180	17.4%	302	5	40	190	20.7%	427
Cellular 2	35	180	17.4%	302		35	180	17.4%	302
3	40	240	26.1%	681		40	240	26.1%	681
4	40	240	26.1%	681		40	240	26.1%	681
5	20	120	13.0%	170	-5	15	90	9.8%	96
Totals	170	920		2,136		170	920		2,186
Herfindahl-Hirschman Analysis				Initial HHI	2,136				
				Change	50				
				Final HHI	2,186				

* Effective Capacity is defined as bandwidth devoted to digital multiplied by the ratio of digital's advantage over analog plus bandwidth devoted to analog.

Source: FCC, Second Report and Order ; Charles River Associates.

Table 8

HHI Calculations

Digital : Analog / 6 : 1

Cellular Operators Bandwidth Devoted to Analog : 10 MHz

Firms	Initial Bandwidth	Effective Capacity*	Market Share	HHI Contribution	Acquired Bandwidth	Final Bandwidth	Effective Capacity*	Market Share	HHI Contribution
Cellular 1	35	160	17.4%	302	5	40	190	20.7%	427
Cellular 2	35	160	17.4%	302		35	160	17.4%	302
3	40	240	26.1%	681	-5	35	210	22.8%	521
4	40	240	26.1%	681		40	240	26.1%	681
5	20	120	13.0%	170		20	120	13.0%	170
Totals	170	920		2,136		170	920		2,101
Herfindahl-Hirschman Analysis				Initial HHI	2,136				
				Change	-35				
				Final HHI	2,101				

* Effective Capacity is defined as bandwidth devoted to digital multiplied by the ratio of digital's advantage over analog plus bandwidth devoted to analog.

Source: FCC, Second Report and Order ; Charles River Associates.

Table 9**HHI Calculations**

Digital : Analog / 6 : 1

Firms	With Analog Handicap (10MHz)				Without Analog Handicap			
	Bandwidth	Effective Capacity*	Market Share	HHI Contribution	Bandwidth	Effective Capacity*	Market Share	HHI Contribution
Cellular 1	25	100	10.9%	118	25	150	14.7%	216
Cellular 2	25	100	10.9%	118	25	150	14.7%	216
3	30	180	19.6%	383	30	180	17.6%	311
4	30	180	19.6%	383	30	180	17.6%	311
5	20	120	13.0%	170	20	120	11.8%	138
6	10	60	6.5%	43	10	60	5.9%	35
7	10	60	6.5%	43	10	60	5.9%	35
8	10	60	6.5%	43	10	60	5.9%	35
9	10	60	6.5%	43	10	60	5.9%	35
Totals	170	920		1,342	170	1,020		1,332
Herfindahl-Hirschman Analysis				1,342	1,332			

* Effective Capacity is defined as bandwidth devoted to digital multiplied by the ratio of digital's advantage over analog plus bandwidth devoted to analog.

Source: FCC. Second Report and Order ; Charles River Associates.

Table 10

HHI Calculations

Digital : Analog / 1 : 1

Entry of Two SMRs with 5 MHz Each

Firms	Pre-SMR Entry			Post-SMR Entry		
	Bandwidth	Market Share	HHI Contribution	Bandwidth	Market Share	HHI Contribution
Cellular 1	25	14.7%	216	25	13.9%	193
Cellular 2	25	14.7%	216	25	13.9%	193
3	30	17.6%	311	30	16.7%	278
4	30	17.6%	311	30	16.7%	278
5	20	11.8%	138	20	11.1%	123
6	10	5.9%	35	10	5.6%	31
7	10	5.9%	35	10	5.6%	31
8	10	5.9%	35	10	5.6%	31
9	10	5.9%	35	10	5.6%	31
SMR 10				5	2.8%	8
SMR 11				5	2.8%	8
Totals	170		1,332	180		1,204
Herfindahl-Hirschman Analysis			1,332			1,204

Source: FCC, Second Report and Order ; Charles River Associates.

Table 11A

HHI Calculations

Digital : Analog / 1 : 1

Entry of One SMR with 10 MHz

Firms	Pre-SMR Entry			Post-SMR Entry		
	Bandwidth	Market Share	HHI Contribution	Bandwidth	Market Share	HHI Contribution
Cellular 1	35	20.6%	424	35	19.4%	378
Cellular 2	35	20.6%	424	35	19.4%	378
3	40	23.5%	554	40	22.2%	494
4	40	23.5%	554	40	22.2%	494
5	20	11.8%	138	20	11.1%	123
SMR 6				10	5.6%	31
Totals	170		2,093	180		1,898
Herfindahl-Hirschman Analysis			2,093	1,898		

Source: FCC, Second Report and Order ; Charles River Associates.

Table 11B

HHI Calculations

Digital : Analog / 1 : 1

One SMR with 10 MHz

Firms	Initial Bandwidth	Market Share	HHI Contribution	Acquired Bandwidth	Final Bandwidth	Market Share	HHI Contribution
Cellular 1	35	19.4%	378	5	40	22.2%	494
Cellular 2	35	19.4%	378		35	19.4%	378
3	40	22.2%	494		40	22.2%	494
4	40	22.2%	494		40	22.2%	494
5	20	11.1%	123	-5	20	11.1%	123
SMR 6	10	5.6%	31		5	2.8%	8
Totals	180		1,898		180		1,991
Herfindahl-Hirschman Analysis			Initial HHI	1,898			
			Change	93			
			Final HHI	1,991			

Source: FCC, Second Report and Order ; Charles River Associates.

Table 12**CTIA PROPOSAL****HHI Calculations****Digital : Analog / 6 : 1**

Firms	With Analog Handicap (10MHz)				Without Analog Handicap			
	Bandwidth	Effective Capacity*	Market Share	HHI Contribution	Bandwidth	Effective Capacity*	Market Share	HHI Contribution
Cellular 1	25	100	10.9%	118	25	150	14.7%	216
Cellular 2	25	100	10.9%	118	25	150	14.7%	216
3	20	120	13.0%	170	20	120	11.8%	138
4	20	120	13.0%	170	20	120	11.8%	138
5	20	120	13.0%	170	20	120	11.8%	138
6	20	120	13.0%	170	20	120	11.8%	138
7	10	60	6.5%	43	10	60	5.9%	35
8	10	60	6.5%	43	10	60	5.9%	35
9	10	60	6.5%	43	10	60	5.9%	35
10	10	60	6.5%	43	10	60	5.9%	35
Totals	170	920		1,087	170	1,020		1,125
Herfindahl-Hirschman Analysis				1,087	1,125			

* Effective Capacity is defined as bandwidth devoted to digital multiplied by the ratio of digital's advantage over analog plus bandwidth devoted to analog.

Source: Charles River Associates.